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A new species of the genus *Agrodiaetus* Hübner, [1822] from Transcaucasia

(Lepidoptera, Lycaenidae)

by

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Summary: *Agrodiaetus lukhtanovi* spec. nov. from Zuvand plateau (Azerbaijan, Talysh mts) is described on the basis of morphological and karyological data. New data on larval food plant are provided. The holotype is kept in the collection of the Museum of Comparative Zoology (Harvard University, Cambridge, MA, USA).

The following abbreviations are used:
EMEM - Entomologisches Museum of Dr. Ulf Eitschberger, Marktleuthen, Germany
ZSSM - Zoologische Staatssammlung, München
SPBU - St. Petersburg State University, Department of Entomology, St. Petersburg, Russia
CN - chromosome number

Introduction

Two externally close taxa, *aserbeidschanus* and *ninae*, were described in the well-known revision of the genus *Agrodiaetus* inside the *transcaspicus* species-complex (Forster, 1956). In current systematics their taxonomic rank is treated as good sibling species due to remarkable difference in the chromosome numbers, determined as CN = 34, 35 for *ninae* and CN = 22 for *aserbeidschanus* respectively (de Lesse, 1960, 1963; Lukhtanov, 1989).
This version has been accepted (see e. g. Hesselbarth et al., 1995) inspite of the fact that the cytological data were not based on specimens from the type populations.

In 2001-2002 new data on the biology of the type population of *Agrodiaetus aserbeidschanus* were obtained as the result of our investigations in the northern spurs of the Zangezur range (Transcaucasia, South Armenia). To all evidence, the habitat of this high altitude representative of the "*transcaspicus*"-group is restricted to northern slopes of the Zangezur mts. It was shown that the chromosome number of the type population of *Agrodiaetus aserbeidschanus* was similar to a typical population of *Agrodiaetus ninae*, described from Vaiotzdzor mts (Central Armenia) (Lukhtanov & Dantchenko, in prep.).

The data obtained in 2003 stimulated new attempt in the study of the populations from Zuvand plateau (Talysh Mountains, Azerbaijan) and made us revise their taxonomic position, earlier ascribed to *Agrodiaetus aserbeidschanus* (Lukhtanov, 1989; Dantchenko, 2000).

Agrodiaetus ***lukhtanovi*** **spec. nov.**
(colour plate XIVa, figs. 1-4)

Material
Holotype ♂: Transcaucasia, Azerbaijan, Talysh mts., Zuvand plateau, Mistan village, 2000 m alt., 30.VII.2003, Dantchenko A. et Lukhtanov V. leg. (sample 2003_F884, kept in the DNA and Tissues Collection of the Museum of Comparative Zoology (Harvard University, Cambridge, MA, USA).
Paratypes: 6 ♂♂, same data, same locality; 15 ♂♂, 5 ♀♀, same locality but 5.VIII.2003, Dantchenko A. leg.; 6 ♂♂, same locality, but 7.VIII.2003; 3 ♂♂, Azerbaijan, Talysh mts., Zuvand plateau, Veri village, 1800 m. alt., 20.-25.VI.1995, Dantchenko A. leg; 6 ♂♂, Azerbaijan, Talysh mts., Zuvand plateau, Golobin village, 2000 m. alt., 22.-23.VII.1984, Lukhtanov V. leg. (will be preserved in EMEM, ZSSM, SPBU).

Description
Holotype ♂: forewing length 16.5 mm.
UPS: ground color blue with violet tint, discal strokes invisible, forewing costal area bordered by white pubescence, marginal obscuration very light, veins darkened distally; inner part of cilia dark grey in forewings, light grey in hindwings, outer part white.
UNS: ground color dark grey with brownish tint, discal spot and row of postdiscal spots relatively large, encircled with white, marginal design of forewings almost invisible, in hindwings marginal design clear distinct, marginal brackets in cell 2A-Cu2 very bright with reddish spot, white stroke sharp, equal in width from basal to distal part, basal dusting with bluish tint, not strong but well developed.
Paratype ♀: forewings length 16.0 mm.
UPS: ground color dark brown, black discal stroke of forewings clear distinct, red spots of marginal design very in hindwings well developed, in forewings almost invisible. the inner part of cilia brown in forewings, light brown in hindwings, outer part cilia white.
UNS: general design as in male but ground color light brown, marginal design in forewing consist of diffused reddish spots more depicted posteriori, in hindwings marginal design more sharp, in cell 2A-Cu2 with reddish spot, white stroke sharp, equal in width, basal dusting with bluish tint, not strong but well developed.

Variation
Forewing length in males varies from 12.5 to 16.0 mm, blue tint of ground color in upperside of the wings varies from violet-blue to dark blue, ground color in underside of the wings varies from dark grey to light brown, 6 ♂♂ have basal spots on forewings underside.
Forewings length in females varies from 12.0 to 15.5 mm, 3 ♀♀ have basal spots in wings underside.

Definition
Agrodiaetus lukhtanovi spec. nov. differs from the closest species *Agrodiaetus aserbeidschanus* Forster, 1956 by bigger size, more violet tint in ground color of wings in males, more distinct design in underside of hindwings in both males and females. The chromosome number of *Agrodiaetus lukhtanovi* spec. nov. evaluated in an earlier work (Lukhtanov, 1989) has been confirmed during the recent investigations as CN = 22. It shows a remarkable difference as

compared with typical population of *Agrodiaetus aserbeidschanus* determined as CN = 34 or 35. This data will be discussed in details in a later paper (LUKHTANOV & DANTCHENKO, in prep.).

Bionomy

The specimens of the type series were collected from dry steppe-like biotope with xerophytous vegetation at 1800–2000 m altitude on south slopes of the spurs forming the so-called Diabara depression.

Oviposition was observed on leaves of *Astragalus rostratus* C. A. M., section *Proselius* BGE, according to GROSSGEIM (GROSSGEIM, 1952), which was incorrectly determined as *Onobrychis* spp in an earlier work (DANTCHENKO, 2000). In 1994 several larvae, obtained from fresh laid eggs, completed up to pupae in the same year, but under natural conditions the species is monovoltine. The flight period is extended from end of June to middle August and depends strongly upon exposition and local relief.

Distribution

Zuvand plateau of Talysh Mountains (Transcaucasia, Azerbaijan).

Etymology

Dr. VLADIMIR LUKHTANOV is an expert in cytology of the genus *Agrodiaetus*, a pioneer in chromosome research of Lepidoptera of Transcaucasia.

Discussion

At first glance, *Agrodiaetus lukhtanovi* spec. nov. is very close to typical *Agrodiaetus elbursicus* FORSTER, 1956 and its recently described subspecies *Polyommatus (Agrodiaetus) elbursicus gilanensis* (ECKWEILER, 2002). The latter taxa differ by their chromosome number determined as CN = 17–18 (LUKHTANOV & DANTCHENKO, in preparation). The revision of this group based on the cytological data obtained for most of the known populations would be very fruitful. At the moment the systematic position of the populations from East Dagestan and Georgia, which were earlier ascribed (DANTCHENKO, 2000) to *Agrodiaetus aserbeidschanus*, is not clear. It will be discussed in light of cytological data in a following paper (LUKHTANOV & DANTCHENKO, in preparation).

We selected a dark blue colored paratype specimen for the picture. Some of the male specimens of the type series are very similar in colour to specimens figured by ECKWEILER (2002: 78, figs. 17, 18).

Acknowledgments

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Explanation of colour plate XIVa (p. 473):

Fig. 1: *Agrodiaetus lukhtanovi* spec. nov., paratype ♂: Transcaucasia, Azerbaijan, Talysh mts., Zuvand plateau, Mistan village, 2000 m alt., 07.VIII.2003, DANTCHENKO A. leg. Upperside.
Fig. 2: *Agrodiaetus lukhtanovi* spec. nov., paratype ♂: Transcaucasia, Azerbaijan, Talysh mts., Zuvand plateau, Mistan village, 2000 m alt., 07.VIII.2003, DANTCHENKO A. leg. Underside.
Fig. 3: *Agrodiaetus lukhtanovi* spec. nov., paratype ♀: Transcaucasia, Azerbaijan, Talysh mts., Zuvand plateau, Mistan village, 2000 m alt., 05.VIII.2003, DANTCHENKO A. leg. Upperside.
Fig. 4: *Agrodiaetus lukhtanovi* spec. nov., paratype ♀: Transcaucasia, Azerbaijan, Talysh mts., Zuvand plateau, Mistan village, 2000 m alt., 05.VIII.2003, DANTCHENKO A. leg. Underside.

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Colour plate XIVa

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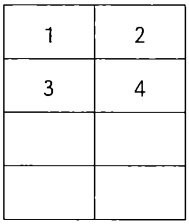


Fig. 1: *Agrodiaetus lukhtanovi* spec. nov., paratype ♂: Transcaucasia, Azerbaijan, Talysh mts., Zuvand plateau, Mistan village, 2000 m alt., 07.VIII. 2003, DANTCHENKO A. leg. Upperside.
Fig. 2: *Agrodiaetus lukhtanovi* spec. nov., paratype ♂: Transcaucasia, Azerbaijan, Talysh mts., Zuvand plateau, Mistan village, 2000 m alt., 07.VIII. 2003, DANTCHENKO A. leg. Underside.
Fig. 3: *Agrodiaetus lukhtanovi* spec. nov., paratype ♀: Transcaucasia, Azerbaijan, Talysh mts., Zuvand plateau, Mistan village, 2000 m alt., 05.VIII. 2003, DANTCHENKO A. leg. Upperside.
Fig. 4: *Agrodiaetus lukhtanovi* spec. nov., paratype ♀: Transcaucasia, Azerbaijan, Talysh mts., Zuvand plateau, Mistan village, 2000 m alt., 05.VIII.2003, DANTCHENKO A. leg. Underside.

Colour plate XIVb

DANTCHENKO, A. & V. LUKHTANOV: New taxa of the "brown" species-complex of the genus *Agrodiaetus* HÜBNER, [1822] from Transcaucasia (Lepidoptera, Lycaenidae). Atalanta **35** (3/4): 327–334.

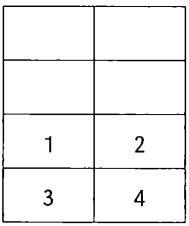
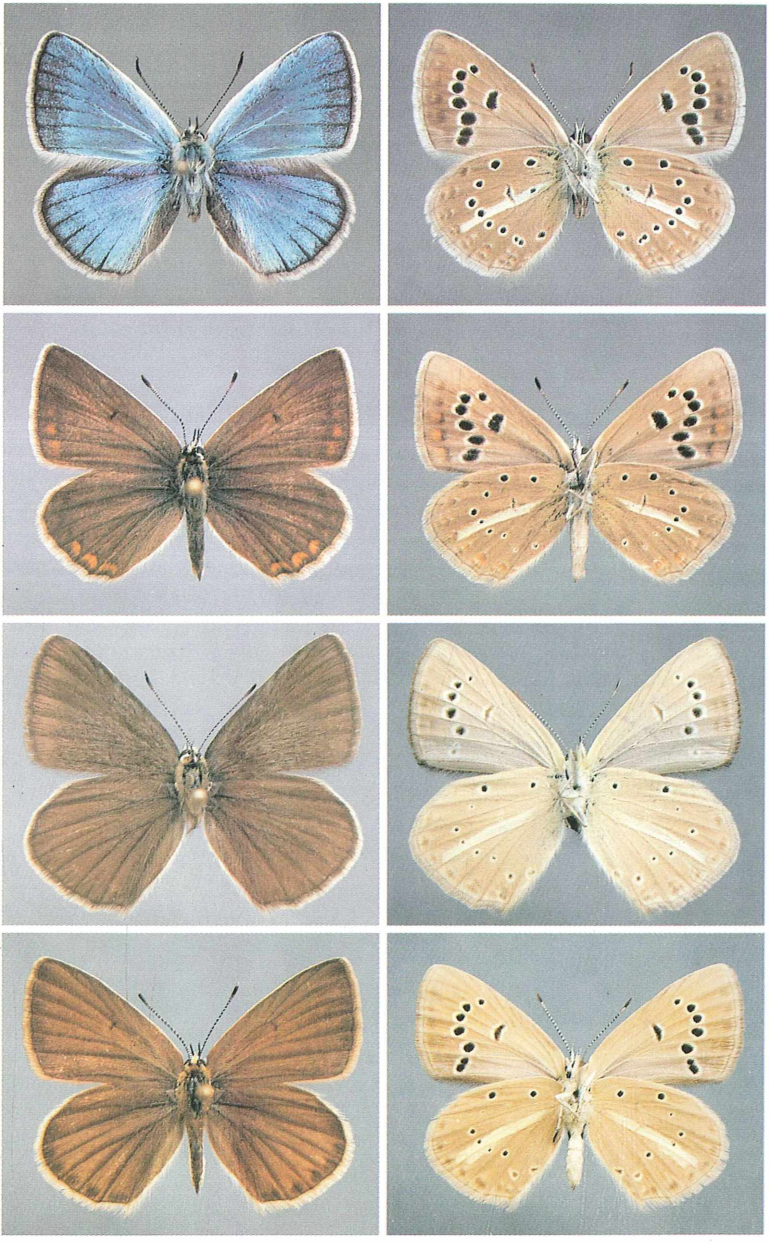


Fig. 1: *Agrodiaetus belovi* spec. nov., paratype ♂: Transcaucasia, Armenia, Gegamsky mts., right bank of Vedy river, "Khosrov reserve" 1800 m alt., 19.VII.2004, DANTCHENKO A. leg. Upperside.
Fig. 2: *Agrodiaetus belovi* spec. nov., paratype ♂: Transcaucasia, Armenia, Gegamsky mts., right bank of Vedy river, "Khosrov reserve" 1800 m alt., 19.VII.2004, DANTCHENKO A. leg. Underside.
Fig. 3: *Agrodiaetus belovi* spec. nov., paratype ♀: Transcaucasia, Armenia, Gegamsky mts., right bank of Vedy river, "Khosrov reserve" 1800 m alt., 19.VII.2004, DANTCHENKO A. leg. Upperside.
Fig. 4: *Agrodiaetus belovi* spec. nov., paratype ♀: Transcaucasia, Armenia, Gegamsky mts., right bank of Vedy river, "Khosrov reserve" 1800 m alt., 19.VII.2004, DANTCHENKO A. leg. Underside.

Colour plate XIVa/b



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